Message

From: Lawrence, Kathryn [/O=EXCHANGELABS/OU=EXCHANGE ADMINISTRATIVE GROUP (FYDIBOHF23SPDLT)/CN=RECIPIENTS/CN=1D569EFE5F324A7DA5AF10FA55878774-KLAWRENC]
Sent: 8/26/2015 4:16:05 PM
To: Wesling, Mary [Wesling.Mary@epa.gov]
Subject: RE: ExxonMobil HF Question/clarification

Mary

Can you take a look at the information below?

Lets discuss before we get back to ENF so we are all on the same page and can make sure that EM is given a heads up.

thanks!

Kathryn Lawrence
Chief, Emergency Prevention and Preparedness
Superfund Division, EPA Region 9
(415) 972-3039

From: Johnson, Kathleen
Sent: Wednesday, August 26, 2015 9:06 AM
To: Lawrence, Kathryn; Wesling, Mary
Subject: FW: ExxonMobil HF Question/clarification
Importance: High

As we discussed this am

Kathleen H. Johnson
Director, Enforcement Division
U.S. EPA - Region 9
75 Hawthorne Street ENF-1
San Francisco, CA 94015
415/972-3873
johnson.kathleen@epa.gov

From: Mohsen Nazemi [mailto:MNazemi1@aqmd.gov]
Sent: Wednesday, August 26, 2015 8:53 AM
To: Johnson, Kathleen
Cc: Adams, Elizabeth
Subject: ExxonMobil HF Question/clarification
Importance: High

Hi Kathleen and thanks for taking my call this morning. As I mentioned to you we are meeting with a group of community members in Torrance who have expressed concerns about the use of HF, even in its modified form, at the ExxonMobil refinery. Below is the list of latest inquiry they sent me and Barry last night. I would appreciate if EPA could do the followings:
Please provide me with a copy of EM's EPA RMP (as I mentioned, I am not sure what WCS stands for?)
Are you able to provide information or preferably answers to the questions being asked from us regarding EPA's RMP, and other questions listed below?

Thanks a million for your help. Talk to you later and take care.

Mohsen Nazemi, P.E.
Deputy Executive Officer
Engineering & Compliance Office
South Coast Air Quality Management District
Phone No. (909)396-2662
Fax No. (909)396-3895
mnazemi1@aqmd.gov

From: Sally H [mailto:sallyhayati@gmail.com]
Sent: Tuesday, August 25, 2015 7:27 PM
To: Mohsen Nazemi; Barry Wallerstein
Subject: Question/clarification. Plus some subjects TRAA hopes to cover on Thursday's meeting

Dear Dr. Wallerstein and Mr. Nazemi,

I am grateful SCAQMD is willing to discuss MHF. Our group would love to rely on MHF experts, and that is our constant quest. But there are few MHF experts and trade secrets or security concerns are a problem. I've found expert material: from government, industry, NGOs. But because I'm not an expert myself, our story needs to be examined and corrected or enlarged where necessary. That's one purpose of the meeting.

Also we hope to convince the AQMD to revisit the MHF issue again. :-) And to hear your opinions on that point.

But please, first, I could really use feedback before the meeting on my understanding of how ExxonMobil calculated toxic endpoint distance for their EPA RMP worst case toxic scenario. If it's wrong I really need to know.

ExxonMobil's EPA RMP WCS (viewed by me at a DoJ reading room) states they use the EPA RMP*Comp model and they take credit for two passive mitigation measures, MHF and barriers.

The main decisions I had to make were that ExxonMobil used the *table for dense gas*, not buoyant gas, and took credit for passive mitigation measures by *reducing the release rate* to create an "effective" release rate. The WCS gives no info on that. The SA report did say Mobil did it that way. Details:

Toxic Endpoint Distance w/ MHF Mitigation

EPA RMP*Comp model + Reference Table 7
From EPA Risk Management Program Guidance for Offsite Consequence Analysis
10 minute release of a dense gas, urban conditions, F Stability, wind speed 1.5 meters/sec

Toxic Endpoint mg/L →	0.01	0.016 for HF	0.02
Release Rate lbs/min ↓	Distance to Toxic Endpoint, Miles		
1. 150	3.6	3.2	2.5
2. 500	6.2	5.18	4.5
3. 520 WC scenario		(5.28)	
4. 750	8.1		5.5

- WCS: 5,200 lb. HF released over 10 min = 520 lb/min
- Toxic Endpoint distance for HF would be 5.28 mi.
- But credit for 2 passive mitigation factors is taken
  - Release rate is reduced 65% for MHF and 6% for "barriers"
  - 29% of 520 lb./min = 150 lb./min
  - Giving 3.2 mi for toxic endpoint distance

Does this seem reasonable and correct? Or not? Thanks so much for your help with this. Below is an updated and shortened list of the questions I sent to you earlier.

Thank you again,
Sally Hayati

1. What is the total acid inventory (MHF + HF)? 250,000 lb. **~30,000 gal?**

(8.3 lbs/gal HF, 9.7 lbs/gal MHF…what is the density?)

2. What is the MHF additive? SULFOLANE.

Source: Valero Refinery, Wilmington, US EPA RMP data.

Valero and Mobil both started out with ReVAP.

3. What percentage of additive is maintained in the MHF mixture? 10%

4. What % reduction in airborne acid (compared to HF) is claimed? 65%

5. Is the current MHF composition different from what Mobil adopted and the SA evaluated in 1995?

6. Does the percentage of additive vary during different phases of MHF storage, processing, and regeneration?

7. Is the additive removed or separated during alkylation processing?[1]

- Is pure HF present in the depropanizer? How much? (See Table 4.4-13. The 2008 Big West EIR revealed that large amounts of HF (Not MHF) were to be present in the depropanizer.[2]

- In the reactor, acid cooler, or other alky unit components?

- During acid regeneration?

9. What is the maximum inventory percentage (of the total) that could be HF?

11. What is the largest amount of unmodified HF contained in a single vessel or pipe system?

12. What is the critical superheat value for the MHF composition being used, above which flash atomization and aerosol formation could occur upon release under refinery conditions? (see SA report p. V-6)

Q.13-17 No need to focus on details of water suppression systems at this meeting

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[1] Comment from AQMD staff during first meeting with TRAA

[2] http://psbweb.co.kern.ca.us/UtilityPages/Planning/EIRS/clean_fuels/FEIR/4.4_Hazards_MASTER.pdf